

REMARKS/ARGUMENTS

This is in response to the Official Action mailed July 12, 2010 for the above-captioned application. Reconsideration of the application as amended is respectfully requested.

Applicants thank Examiner Pak for taking the time to discuss this application and the outstanding Official Action with their undersigned representative by telephone. This paper will serve as Applicants' summary of that interview.

Claims 30, 31, 33, 35, 40 and 42 stand rejected under 35 USC § 112, first paragraph, as lacking written description and enablement. As pointed out in the interview, this rejection appears to be based on an incorrect understanding of the number of malate dehydrogenase sequences disclosed in the application. Seq ID No. 271 is not the only such sequence disclosed, nor is it the only one for *Trifolium repens*.

Page 10, lines 17-23 include a listing of the sequences within the application for MDH encoding nucleotides. The sequences listed in claim 33 are all within this list, and comparison with the sequence numbers and the sequence list shows that they all are sequences for white clover, i.e. *Trifolium repens*. The figures in the application (particularly Figs. 55-85) show comparisons for the nucleic acid sequences of *T. repens* MDH. Thus, Applicants submit that there is an ample number of examples, and a teaching showing the common structure sufficient to show possession of the genus and to provide enablement. Since all of the examples are to *T. repens* sequences, claim 30 has been amended to include the limitations of claim 31. Based on the discussion at the interview, it is believed that this, plus the additional arguments should overcome these rejections.

Claims 31, 35, 40-42, 58-59 and 61-63 were rejected under 35 USC § 112, because they retained a reference to a nucleic acid fragment and therefore lacked antecedent basis. In each of these claims an appropriate correction has been made. In addition, claim 35 has been amended to independent form by repeating the language of claim 33 within the claim and eliminating the reference to claim 30 and the basis for the Objection set forth on Page 3 of the office action. Claims 42, 49, and 63 have been amended in view of the Examiner's remarks.

Claims 33 and 60 were rejected under 35 USC § 112, second paragraph, based on the recitation of functional activity. While Applicants do not agree that the very broad interpretation (any function) given by the Examiner would be the one arrived at by a person skilled in the art who had read the specification, Applicants have amended claim 33 to recite " , wherein said functionally active variants have the ability to modify malate dehydrogenase activity in a plant" which is the function referenced in the specification. This amendment was discussed with the examiner and based on that discussion is believed to overcome the rejection.

In view of the foregoing, Applicants submit that the generic claim (claim 30) and the elected species (Seq ID No. 271) are in form for allowance. Accordingly, the Examiner should

not consider the remaining sequence within the genus, (i.e. those listed in claim 33), as well as plants, plant parts and plant seeds, to the extent that these contain one of the specified nucleic acid constructs.

To address the withdrawn claims, Applicants have canceled claims 43, 51-54 and 56 without prejudice. Withdrawn claims 44, 45 and 49 relate to a method of using the nucleic acid claim 30 and are therefore appropriately recombined. Claim 50 relates to a single nucleic polymorphism (SNP) of the sequence of claim 50. Such an SNP is well within the 95% variation of claim 33, and therefore is properly recombined. Withdrawn claim 64, directed to a construct, has been amended to make it dependent on claim 35, and thus to include one of the recited *Trifolium repens* sequences or its antisense, plus nucleic acids encoding one or more of the other two types of enzymes. Thus, claims 64 - 71 are believed to contain all of the limitations of the considered claims, and therefore recombination and allowance of these claims are also requested.

In view of the foregoing, Applicants submit that this application is in form for allowance, and such action is respectfully urged.

Respectfully submitted,



Marina T. Larson
Marina T. Larson Ph.D.
PTO Reg. No. 32,038
Attorney for Applicant
(970) 262 1800